AMENDED CLAIMS

1. (currently amended) A method of enhancing images of combined tissue types, comprising ~~the steps of~~:

(a) ~~sorting pixels of~~ separating an image of a combined tissue type into ~~at least two categories of tissue~~ multiple types of tissues;

(b) ~~defining at least two zones encompassing regions of a given tissue type~~

~~(c)~~ (b) applying an image sharpening filter selectively to only ~~a given~~ one of the ~~two zones~~ types of tissues; and

~~(d)~~ (c) producing an output image with at least the ~~given zone~~ type of tissue modified by the image sharpening filter.

2. (currently amended) The method of ~~claim 1~~ Claim 1, wherein the image sharpening filter is a spatial high-pass filter.

3. (currently amended) The method of ~~claim 1~~ Claim 1, wherein the ~~two categories~~ multiple types of tissues ~~are~~ include bone and soft tissue.

4. (currently amended) The method of ~~claim 1~~ Claim 1, wherein the ~~given tissue~~ type of tissue modified by the image sharpening filter is bone.

5. (currently amended) The method of ~~claim 1~~ Claim 1, wherein the ~~two categories~~ multiple types of tissues ~~are~~ include fat and non-fat tissue.

6. (currently amended) The method of ~~claim 1~~ Claim 1, wherein the ~~given tissue~~ type of tissue modified by the image sharpening filter is fat.

7. (currently amended) The method of ~~claim 1~~ Claim 1, further including accepting from a user a sharpening amount input and where the output image ~~in the given zone~~ is a combination of the ~~given zone~~ type of tissue modified by the image sharpening filter and the ~~given zone~~ type of tissue unmodified by the image sharpening filter.

8. (currently amended) The method of ~~claim 1~~ Claim 7, wherein the sharpening amount input is received from a virtual control displayed on a screen showing the output image and wherein the modification of the ~~given zone~~ type of tissue modified by the image sharpening filter is performed substantially in real-time.

9. (currently amended) The method of ~~claim 1~~ Claim 1, further including accepting from a user a ~~zone~~ modification input modifying the ~~given zone~~ type of tissue modified by the image sharpening filter.

10. (currently amended) The method of ~~claim 1~~ Claim 9, wherein the ~~zone~~ modification input is received by a cursor control device manipulating a ~~zone~~ mask superimposed on the output image ~~displayed on a screen~~.

11. (currently amended) The method of ~~claim 1 including the step of~~ Claim 1, further comprising deriving the image from a ~~dual~~ multiple energy x-ray and wherein the ~~sorting pixels determines the tissue type by a comparison of~~ multiple types of tissues are determined by attenuation ~~at~~ of the ~~two energies of~~ multiple energy x-ray.

12. (currently amended) An apparatus for imaging ~~multiple~~ combined tissue types, comprising:

an x-ray source and detector for collecting x-ray attenuation data over a region of a patient to define ~~pixels of~~ an image;

a computer ~~receiving~~ adapted to receive the attenuation data and ~~execution of~~ execute a stored program to:

(a) ~~sort pixels of~~ separate the image into ~~at least two categories of tissue~~ multiple types of tissues;

(b) ~~define at least two zones encompassing regions of a given tissue type;~~

~~(c)~~ (b) apply an image sharpening filter selectively to only ~~a given one but less than all of the zones~~ one of the types of tissues; and

~~(d)~~ (c) produce an output image with at least the ~~given zone~~ type of tissue modified by the image sharpening filter.

13. (currently amended) The apparatus of ~~claim 12~~ Claim 12, wherein the image sharpening filter is a spatial high-pass filter.

14. (currently amended) The apparatus of ~~claim 12~~ Claim 13, wherein the spatial high-pass filter is implemented by subtracting a spatial low-pass filtered image from the output image.

15. (currently amended) The apparatus of ~~claim 12~~ Claim 12, wherein the ~~two categories~~ multiple types of tissues ~~are~~ include bone and soft tissue.

16. (currently amended) The apparatus of ~~claim 12~~ Claim 12, wherein the ~~given tissue~~ type of tissue modified by the image sharpening filter is bone.

17. (currently amended) The apparatus of ~~claim 12~~ Claim 12, wherein the ~~two categories~~ multiple types of tissues ~~are~~ include fat and non-fat tissue.

18. (currently amended) The apparatus of ~~claim 12~~ Claim 12, wherein the ~~given tissue~~ type of tissue modified by the image sharpening filter is fat.

19. (currently amended) The apparatus of ~~claim 12~~ Claim 12, further including a user input device ~~accepting~~ configured to accept from a user a sharpening amount input and wherein the computer ~~program~~ further executes the stored program to produce the output image ~~in the given zone~~ as a combination of the ~~given zone~~ type of tissue modified by the image sharpening filter and the ~~given zone~~ type of tissue unmodified by the image sharpening filter.

20. (currently amended) The apparatus of ~~claim 12~~ Claim 19, wherein the computer ~~program~~ further executes the stored program to implement a virtual control on ~~the~~ a screen and wherein the sharpening amount input is received from ~~a~~ the virtual control and wherein the modification of the ~~given zone~~ type of tissue modified by the imaging sharpening filter is performed substantially in real-time.

21. (currently amended) The apparatus of ~~claim 12~~ Claim 12, further including an input device ~~accepting~~ configured to accept from a user~~,~~ a ~~zone~~ modification input modifying the ~~given zone~~ type of tissue modified by the imaging sharpening filter.

22. (currently amended) The apparatus of ~~claim 12~~ Claim 21, wherein the computer ~~program~~ further executes the stored program to implement a painting cursor and wherein the ~~zone~~ modification input is adapted to be received from the painting cursor manipulating a ~~zone~~ mask superimposed on the output image ~~displayed on a screen~~.

23. (currently amended) The apparatus of ~~claim 12~~ Claim 12, wherein the x-ray source and ~~x-ray~~ detector produce attenuation data at ~~two~~ multiple energies of the x-ray.